

### **REMARKS**

In response to the non-final Office Action of September 20, 2010, claims 1-2, 5-6, 8-10, 12-13, 16-17, 19-23, 25, 27, 29, 33, 34 and 35 have been amended.

#### **Claim Rejections - 35 USC §103**

At section 2 and in the Response to Amendment section, claims 1 and 2 are rejected under 35 USC §103(a) as unpatentable over newly cited US patent 6,529,740, Ganucheau, in view of US patent 5,572,678, Homma, et al (hereinafter Homma).

With respect to claim 1, it is asserted that Ganucheau teaches a method comprising the actions recited therein, but does not expressly disclose “sending a request to a mobile communication network to switch and thereafter continue transmitting said multicast data via a point-to-point channel so that transmission of said multicast data is continuous through the switch, in case said determined link quality lies below a given link quality.” The Office asserts that Homma teaches sending a request to said mobile communication network to transmit said multicast data via a point-to-point channel in case said determined link quality lies below a given link quality. Applicant respectfully disagrees.

It is asserted that Ganucheau “determines if the signal quality on a point-to-multipoint channel is acceptable and whether switch would be advantageous.” Ganucheau does not however disclose requesting a channel switch based on link quality. Ganucheau discloses at column 12, lines 34-46: “If acceptable signal quality is indicated, then ... Task 172 interpolates the local channel list to determine if the current location and time... suggest that a channel switch would be advantageous.” Thus, in Ganucheau, whether or not a channel switch occurs depends not on the signal quality, but the location and time of the subscriber radio. Furthermore, such a switch is not between point-to-multipoint channel and point-to-point channel, as described in claim 1.

It is also asserted that Homma discloses a continuous transmission of multicast data through the switch from transmitting the data via a point-to-point channel to transmitting the data via a point-to-multipoint channel. Applicant respectfully disagrees. Homma is directed to a data communication method for transmitting a large amount of data via a network, such as a LAN to which a plurality of stations or terminals are connected, through a simplified processing procedure. The large amount of data is transmitted from a sender station to a plurality of receiver stations by utilizing a

connectionless communication service while inter-station reception acknowledging/retransmitting processing are performed by using a connection-oriented communication service. The large amount of data to be transmitted is divided into a plurality of blocks, and inter-block delay time is set on the basis of station status factors, such as a permissible load increase rate of the CPU of the individual stations (Homma, Abstract). The Office specifically relies on column 5, line 34 through column 6, line 7 of Homma. As there indicated, Homma only discloses that a mobile station transmits a retransmission request in case of a drop-out of an information frame. For example, it is stated in that during multicast transmission, “there may occur drop-out or loss of the information frame due to a communication error because the multicast transmission is lacking of procedure, as mentioned previously. Upon occurrence of such drop-out of information frame, the corresponding information frame must be sent again.” Thus, if there is a drop-out or loss, the transmitting of the frame must start over, so that the frame can be sent again. It is therefore clear that Homma is directed to the idea that the original packet data are transmitted via a multicast channel and only retransmission of this original packet data is via a point-to-point channel.

As amended, claim 1 recites sending a request to a mobile communication network to switch and thereafter continue transmitting multicast data via a point-to-point channel, in case said determined link quality lies below a given link quality so that transmission of said multicast data is continuous through the switch. Applicant submits that as used in the specification, a person of ordinary skill in the art would interpret “continuous” transmission through the switch as recited in the claim to mean that the transmission of multicast data does not stop upon the switch so that data is retransmitted. Rather, the transmission of a particular set of multicast data is continuous such that data does not require retransmission because upon the switch, the transmission resumes where it left off without losing data in the switch. For example, the specification of the application as filed at page 4, lines 22-34 states:

This raises a problem which has not been dealt with so far. P-t-m data may be lost, when the radio link quality drops below the minimum quality required at the mobile station for acquiring the p-t-m channel. In case a mobile station is acquiring data for a given service over p-t-m and the radio conditions weakens, the mobile station may not be able to get the

data through anymore...It is an object of the invention to ensure a continuous reception of data for a multicast service at a mobile station.

It is therefore clear that “continuous” as used in the claim refers to a continuous transmission without the loss of multicast data, thereby requiring the retransmission of the data lost. This therefore distinguishes the invention of claim 1 from Homma, where a point-to-point channel is used specifically to retransmit data lost in point-to-multipoint transmission.

Therefore, for the foregoing reasons, it is respectfully submitted that claim 1 is not obvious in view of the cited references, and is in allowable form.

Dependent claim 2 is believed to be allowable at least in view of its dependency from claim 1.

At section 3 of the Office Action, claims 5 and 6 are rejected under 35 USC §103(a) as unpatentable over Ganuchau further in view of Homma further in view of US patent 6,360,076, Segura, et al. Claims 5 and 6 both ultimately depend from amended claim 1 and are believed to be allowable at least in view of such dependency.

At section 4 of the Office Action, claims 10, 12, 23, and 27 are rejected under 35 USC §103(a) as unpatentable over US patent application publication 2003/0220119, Terry (hereinafter Terry), in view of Homma.

Although independent claims 10 and 27 are rejected using Terry in place of Ganuchau, Homma is applied in this rejection in the same manner as it is applied in the rejection of claim 1. Because claims 10 and 27 recite similar features to claim 1, it is respectfully submitted that for similar reasons as presented above with respect to claim 1, the combination of Terry and Homma do not render obvious claims 10 and 27.

Dependent claims 12 and 23 are also considered to be allowable at least in view of their dependency from claim 10.

At section 5, claim 13 is rejected under 103(a) as being unpatentable over Ganuchau, in view of Homma, further in view of Ramaswamy (U.S. Patent No. 6,571,112). Because claim 13 is dependent on claim 1, which Applicant has shown to be in allowable form, and because claim 22 is dependent on claim 17, which the Office has stated is non-obvious, it is respectfully submitted that at least in view of this dependency, these dependent claims are non-obvious and in allowable form.

**Claim Rejection- 35 U.S.C. 112**

At section 9 of the Office Action, claims 1-10, 12-13, 16-23, 25, 27, 29 and 33-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1, it is asserted the claim is indefinite because the relationship between what steps are performed by the mobile station and what steps are performed by the mobile communication network is unclear. Applicant has amended claim 1 to recite “determining at a mobile station...”, “receiving multicast data transmitted from a mobile communication network,” and “sending from said mobile station a request to said mobile communication network.” Applicant respectfully submits that as amended, the relationship between the mobile station and mobile communication network in claim 1 is clear, and the claim is definite under 35 U.S.C. § 112.

With respect to claims 2, 5 and 6, it is asserted that the claim is indefinite because of the phrase “said network.” Applicant has amended these claims to recite “said mobile communication network.” Applicant respectfully submits that claims 2, 5 and 6 as amended are therefore definite under 35 U.S.C. § 112.

With respect to claim 8, it is asserted that the claim is indefinite because of the phrase “a mobile communication network and a mobile station.” Applicant has amended the claim to recite “said mobile communication network and said mobile station.” Applicant respectfully submits that claim 8 as amended is therefore definite under 35 U.S.C. § 112.

With respect to claim 9, it is asserted the claim is indefinite because it is not clear what is meant by “a repeated switching”. Applicant has amended this claim to recite “preventing repeatedly switching between said point-to-point channel and said point-to-multipoint channel.” Applicant respectfully submits that in view of the claims from which claim 9 is depends, this phrase is clear to a person having ordinary skill in the art, and claim 9 is definite under 35 U.S.C. § 112.

With respect to claim 10, it is asserted the claim is indefinite because it is unclear what part of the apparatus performs receiving. Applicant has amended the claim to recite a receiver. Support for this amendment can be found in the application as filed, including at page 14, lines 5-22. Applicant respectfully submits that as amended, it is

clear to a person of ordinary skill in the art that it is the receiver of the apparatus which performs the receiving of multicast data from a mobile communication network, and therefore the claim is definite under 35 U.S.C. § 112.

With respect to claim 12, it is asserted the claim is indefinite because the relationship between apparatus and sub-network is unclear. Applicant respectfully disagrees. Claim 12 recites a mobile communication system comprising the apparatus of claim 10 and a sub-network of said mobile communication network. A person of ordinary skill in the art would interpret the relationship between the apparatus and sub-network to be that they are part of a mobile communication system, as is explicitly recited in the claim. Therefore, it is respectfully submitted that claim 12 as amended is definite under 35 U.S.C. § 112.

With respect to claim 13, it is asserted the claim is indefinite because it is unclear what statutory class is being claimed. Applicant has amended claim 13 to recite “A non-transitory processor readable medium stored with code, which when executed by a processor...” as suggested by the Office in Section 9 of the Office Action. As amended, it is clear that the claim is directed to a non-transitory processor readable medium, not to an apparatus or a method, and that when executed, the non-transitory processor readable medium causes a mobile station to perform the method of claim 1. Further, Applicant notes that a person of ordinary skill in the art would acknowledge that a “processing component” is a “processor,” as recited in the amended claim. Therefore, Applicant respectfully submits that claim 13 as amended is therefore definite under 35 U.S.C. § 112.

With respect to claim 16, it is asserted that the claim is indefinite because it is unclear what steps are performed by the mobile communication network and the mobile station. Applicant has amended the claim to remove “at a mobile communication network” from the preamble, and to recite: “a mobile communication network requesting and receiving from a mobile station...”, “used by said mobile communication network for transmitting multicast data to said mobile station,” “estimating at said mobile communication network...”, “said mobile communication network estimates...”, and “said mobile communication network ordering said mobile station to switch..” Applicant respectfully submits that claim 16 as amended is therefore definite under 35 U.S.C. § 112.

With respect to claim 17, it is asserted that the claim is indefinite because it is unclear what steps are performed by the mobile communication network and the mobile station. Applicant has amended the claim to remove “at a mobile communication network” from the preamble, and to clearly recite that the mobile communication network performs “estimating,” “transmitting,” and “ordering.” Applicant respectfully submits that claim 17 as amended is therefore definite under 35 U.S.C. § 112.

With respect to claim 18, it is asserted that the claim is indefinite because “the method is supposed to be done at the mobile communication and in claim 18, mobile station received from said mobile station network. Is applicant claiming a method or a mobile communication network.” Applicant respectfully disagrees with the rejection and submits that the claim is clearly a method claim dependent from claim 17. Claim 17 recites “said mobile communication network orders said mobile station to switch from said point-to-point channel to said point-to-multipoint channel for receiving said multicast data.” Thus, it is clearly stated in claim 17 that the mobile station receives multicast data from the mobile communication network. The recitation in claim 18 that “mobile station receives from said mobile communication network multicast data” is consistent with claim 17. Further, Applicant has amended claim 17 to remove “at a mobile communication network” from the preamble, so that claim 17 does not recite the method is performed at a mobile communication network. Therefore, it is respectfully submitted that in view of amended claim 17, claim 18 is definite under 35 U.S.C. § 112.

With respect to claim 19, it is asserted that the claim is indefinite because “the method is supposed to be done at the mobile communication network and in claim 18, mobile station received from said mobile station network. Is applicant claiming a method or a mobile communication network.” Claim 19 is an independent apparatus claim. Applicant respectfully believes that this rejection is in error, as this claim is not dependent from claim 17 or 18, thus, the fact that “the method is supposed to be done at the mobile communication network” does not limit claim 19. Further, claim 19 is clearly an apparatus claim, not a method or mobile communication network claim. Therefore, Applicant respectfully submits that claim 19 is definite under 35 U.S.C. § 112.

With respect to claim 20, it is asserted that the claim is indefinite because the relationship between the mobile communication system, apparatus and mobile station is unclear. Applicant respectfully disagrees. The mobile communication system of

claim 20 as amended comprises a mobile station and the apparatus of claim 19. The mobile station comprises a receiver configured to receive multicast data from said apparatus. Thus, it is clear that the relationship between the mobile station and apparatus is that they are comprised in a mobile communication system. Further, claims 19 and 20 have been amended to remove reference to a mobile communication system. Therefore, it is respectfully submitted that claim 20 as amended is definite under 35 U.S.C. § 112.

With respect to claim 21, it is asserted that the claim is indefinite because the relationship between the mobile communication system, mobile station and apparatus is unclear. Applicant has amended claim 21 to replace “sub-network” with “apparatus.” Further, claims 19 and 20, which claim 21 ultimately depend from, have also been amended to remove reference to a mobile communication network. Applicant respectfully submits that as amended, and in view of amended claims 19 and 20, in claim 21 the relationship between the mobile communication system, mobile station, and apparatus is clear and claim is definite under 35 U.S.C. § 112.

With respect to claim 22, it is asserted that the claim is indefinite because it is unclear what statutory class is being claimed. Applicant has amended claim 22 to recite “A non-transitory processor readable medium stored with code, which when executed by a processor...” as suggested by the Office in Section 9 of the Office Action. As amended, it is clear that the claim is directed to a non-transitory processor readable medium, not to an apparatus or a method, and that when executed, the non-transitory processor readable medium causes a mobile communication network to perform the method of claim 17. Further, Applicant notes that a person of ordinary skill in the art would acknowledge that a “processing component” is a “processor,” as recited in the amended claim. Therefore, it is respectfully submitted that as amended, claim 22 is definite under 35 U.S.C. § 112.

With respect to claim 23, it is asserted that the claim is indefinite because it is unclear what part of the mobile station is an apparatus. Applicant has amended the claim to recite that the apparatus is a mobile station or is comprised in a mobile station. Applicant respectfully submits that the meaning of the claim would be understood by a person of ordinary skill in the art. The apparatus can be either a mobile station or the apparatus can be comprised in a mobile station. Therefore, it is respectfully submitted that claim 23 as amended is definite under 35 U.S.C. 112.

With respect to claim 25, it is asserted that the claim is indefinite because it is unclear what is the relationship between the apparatus, sub-network and part of a sub-network. Applicant has amended claim 25 to recite that the apparatus is a sub-network of a mobile communication network or comprised in a sub-network of a mobile communication network. Applicant respectfully submits that the relationship between apparatus and sub-network is clear to a person of ordinary skill in the art. The apparatus can either be a sub-network or be comprised in a sub-network. Therefore, it is respectfully submitted that claim 25 as amended is definite under 35 U.S.C. 112.

With respect to claim 27, it is asserted that the claim is indefinite for several reasons. First, it is asserted it is not understood what is meant by “said apparatus receives multicast data from a mobile communication network. Applicant has amended the claim to recite “means for receiving multicast data,” so as to make clear how the apparatus receives multicast data. Support for this amendment can be found in the application as filed, including at page 14, lines 5-22. Second, it is asserted that two mobile communication networks are recited. Applicant has amended the claim to recite one mobile communication network. Third, it is asserted it is unclear whether the “switch and thereafter continue transmitting said multicast data” is performed in the means for transmitting or the mobile communication network. Applicant respectfully believes that in the claim as previously presented it is sufficiently clear that the means for transmitting transmits a request to the mobile communication network, and that the request is for the mobile communication network to switch and thereafter continue transmitting multicast data, as it is also recited in the claim that the apparatus receives multicast data from a mobile communication network. However, to make this feature even clearer in the claim, Applicant has amended the claim to recite “continue transmitting said multicast data via a point-to-point channel to said means for receiving.” Thus, as amended the claim clearly recites that the means for transmitting transmits a request to the mobile communication network for the mobile communication network to switch (from transmitting multicast data via a point-to-multipoint channel) to and thereafter continue transmitting said multicast data via a point-to-point channel to said means for receiving (of the apparatus). Therefore, it is respectfully submitted that claim 27 as amended is definite under 35 U.S.C. 112.

With respect to claim 29, it is asserted that the claim is indefinite because it is unclear whether both mobile stations are the same or different. Applicant has amended



claim 29 to recite only one mobile station. Therefore, it is respectfully submitted that claim 29 as amended is definite under 35 U.S.C. 112.

With respect to claim 33, it is asserted the claim is indefinite because the apparatus is part of the mobile communication network and said mobile communication network performs a step. Applicant has amended claims 19 and 33 to remove the mobile communication network. Claim 33 as amended recites "said mobile station receives from said apparatus multicast data," which is consistent with the recitations in claim 19 that the apparatus transmits multicast data and the mobile station receives multicast data. Therefore, it is respectfully submitted that claim 33 as amended is definite under 35 U.S.C. 112.

With respect to claim 34, it is asserted that the claim is indefinite because "the relationship between what steps are performed by the mobile station and mobile station is unclear. Additionally, what is meant by 'said network'?" Applicant has amended the claim to remove "at a mobile station" from the preamble and to recite this limitation in the claim as appropriate to specify what is performed at the mobile station. However, Applicant believes that the Office is in error by asserting the claim is indefinite for including the phrase "said network." This phrase is not in the claim, as the claim only refers to a mobile communication network. Therefore, it is respectfully submitted that as amended, claim 34 is definite under 35 U.S.C. § 112.

With respect to claim 35, it is asserted that the claim is indefinite because the apparatus comprises a communication component and two processing components. Applicant has amended the claim to recite a first processing component and second processing component. Support for this amendment can be found in the application as filed, including at Figure 4. Therefore, it is respectfully submitted that as amended, claim 35 is definite under 35 U.S.C. § 112.

With respect to claim 36, it is asserted the claim is indefinite because it unclear what is meant by "measuring component receiving multicast data from said apparatus." Applicant respectfully disagrees because claim 35 does not recite a measuring component receiving data from said apparatus. The apparatus comprises a measurement component and a switching component. The measurement component is configured to perform link quality related measurements on a point-to-point channel, the point-to-point channel being currently used by a mobile communication network for transmitting multicast data to said apparatus and for transmitting measurement results

to the mobile communication network. The claim does not recite that the measurement component receives multicast data from the apparatus, or from the mobile communication network. The relationship between apparatus, measurement component, and switching component is clearly set forth in the claim, as the apparatus comprises these two components. Therefore, it is respectfully submitted that claim 36 is definite under 35 U.S.C. § 112, and the rejection is in error.

Therefore, it is respectfully submitted that all pending claims are not indefinite under 35 U.S.C. § 112, second paragraph and are in allowable form.

### **Claim Rejections- 35 U.S.C. 101**

At section 9 of the Office Action, claims 13 and 22 are rejected under 35 U.S.C. 101 because it is asserted the claimed subject matter is directed to a non-statutory subject matter.<sup>1</sup>

It is asserted that dependent claims 13 and 22 recite processor readable medium that could be interpreted as transitory medium. Applicant has amended the claims to recite “non-transitory processor readable medium,” as suggested by the Office at Section 9. As amended, it is clear that the claims are not directed to transitory medium.

Therefore, it is respectfully submitted that claims 13 and 22 are directed to statutory subject matter and are therefore allowable under 35 U.S.C. 101.

### **Allowable Subject Matter**

At section 12 of the Office Action, it is stated that claims 3, 4, 7, 30 and 31 would be allowed if rewritten to overcome the rejections under 35 U.S.C. § 112, second paragraph, and to include all of the limitations of the base claims and any intervening claim. In addition, On review of the Office Action, Applicant cannot find a rejection of claim 32 under §§ 101, 103 or 112, except for its inadvertent inclusion in the rejection under § 101. Claim 32 also corresponds to claim 7. Therefore, Applicant respectfully submits that claim 32 should also be considered allowable subject matter.

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<sup>1</sup> In the body of the rejection, the Office rejects claim 32 as being directed to a processor readable medium, however, Applicant has assumed the Office intended to refer to claim 22 because claim 32 does not recite a processor readable medium.

In view of the foregoing, it is respectfully submitted that the present application as amended is in condition for allowance and such action is earnestly solicited.

The undersigned respectfully submits that no fee is due for filing this Amendment. The Commissioner is hereby authorized to charge to deposit account 23-0442 any fee deficiency required to submit this paper.

Respectfully submitted,

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